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TO STUDY THE ROLE OF SPORTS SCIENCE IN ENHANCING SPORTS PERFORMANCE

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Abstract: *With the rapid development of Economy and technology, modern science and technology has been entering the field of sports. Sports performance, at both the elite and participatory levels, requires the coordinated efforts of athletes, coaches, scientists and other professionals. One of the primary areas of focus for Sport and Exercise Science research is examining and determining the scientific bases of sports performance. At present the international and domestic sports competition organization and management are making use of recent trends in sports science. Most of the countries participating in Olympic games are making use of sports sciences and technology for training athletes and sportsperson.*

Sports science applications in the sports includes the use of computer image analysis technology, the image of three-dimensional animation, Sport psychology questionnaire to measure, computer-aided training athletes, sports training system and related data entry systems, decision support systems. This research article analyze sports science applications in enhancing sports performance, sportsperson quality and promote the cause of technology enabled sports. The study is carried out on ten young Physical Education students of P.D.K.V, Akola. Analysis of data is done and accordingly findings and conclusion is written.

Keywords : *Information Technology, Sports psychology, Biomechanics, Sports competition organization and management, Computer Network, Three-dimensional animation*

Introduction

In the 21st century, the multimedia technology and network technology, as the core of information technology, develops beyond imagination, and plays an important role in all fields and sectors of society. [1][6] Because of the value of sports publicity has increased more it has spread very much fast to all over the world. Sports Science includes the branches of Sports psychology, Sports Statistics, Biochemistry, Sports Medicine, Kinesiology and Bio-mechanics etc.[2][4] Technology has become a decisive factor of economic growth; information has become the common trend of the development of world economy and society. [12] The Olympic movement is one of the social movements on human society. This reflects the importance of the Technology and media in Olympics.[2][4][5]

Objectives

1. To increase awareness of the role that sport science play in enhancing athlete and coach development.
2. To work with coaches and athletes in the application of sport science for their training programs in order to enhance sport-specific performance.

Future prospects of Sports Science

Sports science is an amalgamation of several different disciplines and focuses primarily on the scientific principles behind exercise performance. The study of sports science traditionally incorporates areas of physiology (exercise physiology), psychology (sport psychology), anatomy, biomechanics, biochemistry and biokinetics..[14]

The main focus of sport science is the relationship between exercise and human body, at a cellular level and with regard to the impact on the body as a whole. Unsurprisingly the most common destination for sports science graduates is the sports performance industry, as the competition to achieve new records in different sporting disciplines continues to intensify.[14] In recent years, sports science has rapidly become a very popular and new research into the human body's reaction to exercise and other impetuses is changing the way that sportspeople train and condition themselves. Sports scientists and performance consultants are growing in demand and employment numbers, with the ever-increasing focus within the sporting world on achieving the best results possible. Through the study of science and sport, researchers have developed a greater understanding on how the human body reacts to exercise, training, different environments and many other stimuli.

In the past, a coach could film or watch an athlete to spot errors and problems in form. Now newer three-dimensional motion capture technology can do far more. Between three dimensional modeling and biometric feedback on things like heart and respiratory rate, an expert can see far more about what's happening with an athlete's body. We're able to tell exactly how the athlete is moving in real time. [11][12]

Sample

A sample of ten young Physical Education students from PanjabraoDeshmukhKrishiVidyapeeth, Akola were selected for study purpose. They were given various sports activities. Their performance was judged on the basis of training given using sports science techniques.

Methodology

For carrying out research, various sports activities were carried out on a sample of ten young athletes before and after using sports science techniques and the following observations were made:

Firstly i have focuses on how the human body moves, both internally through the muscles and skeletal system, and how this movement is executed externally. I have use the same techniques and principles when looking at improving the performance of an Olympic athlete or when understanding how a novice is learning a new sporting skill. The students shows the improvement in their performance.

Also i have made use of secondary sources of data available from Books, Research Papers, Journals, various websites related to the articles showing the use of sports science in enhancing sports performance.

Findings

It was found out that students perform better after getting trained with the help of sports science techniques. Their performance in various sports activities was enhanced after receiving training using sports science technology.

Conclusion

Thus sports science introduces students to the various branches of science that relate to the relationship between exercise and the human body. Sports science can help the students to develop an understanding of physiology, psychology, neurophysiology, biomechanics, biochemistry, psychophysiology, anatomy, biokinetics, muscle mechanics and immunology, and by being exposed to these various disciplines sports science students have a wide foundation of knowledge to help them decide which career path would be best suited for them.

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